

REMARKS/ARGUMENTS

Claims 1-14 are canceled without prejudice.

Claims 15-27 are pending in the application.

New Claim 28 has been added.

Claims 15-27 stand rejected.

Applicant is grateful to Examiner Lauchman for the courteous interview granted on November 12, 2003; wherein agreement was reached regarding claim 15 (see interview summary). Applicants discussed the Johnson U.S. Patent No. 6,133,986 and pointed out that Johnson did not teach that the objective together with the field lens, simultaneously images all pupils of the microlens array onto the detector array.

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THE REJECTION UNDER 35 U.S.C. § 102 (b)

Claims 15-24 stand rejected under 35 U.S.C. § 102 (b) as being anticipated by Johnson U.S. patent No. 6,133,986 for the reasons set forth in the outstanding office action. In the outstanding office action, the Examiner states that US 6,133,986 anticipates the subject matter of independent claim 15 as well as of dependent claims 16 through 19 and furthermore makes the embodiments defined in dependent claims 20 through 24 obvious.

The Johnson '986 reference shows in figures 1 and 2 a confocal imaging of a surface (6) onto a detector array (3) by means of a minilens array (2). Between the detector array (3) and the minilens array (2) there is provided a field lens. Light from a light source (9) is directed via a beam splitter (10) onto the minilens array (2) and the field lens, which is in front of the minilens array (2). Therefore, the minilens array (2) is illuminated in total, i.e. all the minilenses are subjected to light from the light source (9). Between the minilens array (2) and the detector array (3) is a pinhole (7) in between two lenses so that the pupil of a single minilens (4) of the minilens array (2) is imaged to a respective spot (5) of the detector array (4). In capsule summary, the optics shown in figures 1 and 2 of the '986 patent perform confocal imaging by means of the pinhole (7), wherein the position and location of said pinhole decides which of the minilenses of the minilens array (2) is active regarding the confocal imaging. To scan the surface (6) the '986 patent displaces the pinhole (7) which is identified as a "projection aperture" in the '986 patent in a raster-like manner.

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Accordingly, it is clear from the '986 patent that scanning is inevitable to fully image the surface (6). Figures 1 and 2 clearly show the raised beam of the confocal imaging using a single one of the minilenses of the minilens array. Thus, the concept of scanning imaging by means of displacement of the pinholes (7) is present in all the embodiments of the '986 patent.

For the sake of simplicity and Example, the '986 patent does not show in figures 18 and 19 the beams of the confocal imaging but illustrates only the full illumination of the minilens array (2). Nevertheless, figures 18 and 19 are based on a scanning approach as well. The interpretation of figures 18 and 19 is conclusive regarding the scanning concept of the '986 patent and, therefore it is clear that the optics of the '986 patent will not image all pupils of the minilens array (2) onto the detector array (3) simultaneously.

The instant invention as defined in present claim 15 uses a concept different from that of the '986 patent in reading in parallel as well of a microtiter plate. To accomplish this, there is provided simultaneous imaging of all pupils of the minilens array onto the detector array via the objective and the field lens. Such simultaneous imaging is impossible using the optics of the '986 patent and contradicts the teaching disclosed therein, since the '986 patent is based on confocal imaging scanning which uses a single minilens for each scanning step.

Withdrawal of the rejection under 35 U.S.C § 102(b) is respectfully requested.

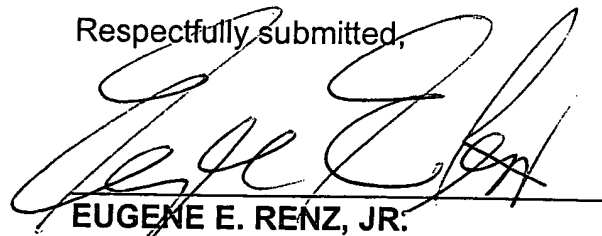
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THE REJECTION UNDER 35 U.S.C. § 103 (a)

The rejection of Claims 25-27 under 35 U.S.C. § 103 (a) as being unpatentable over Johnson (6,133,986), and in view of Craighead (5,867,266) is respectfully traversed. The Examiner states that "Johnson '986 teaches everything as applied to Claim 15. However, the patent does not teach that the system is applicable of measuring absorption, fluorescence, and luminescence, and that it is used as a reader for microtiter plates. The patent to Craighead teaches an apparatus similar in structure (see Fig. 6) for measuring absorption, or reflection or fluorescence. It would have been obvious to use the system of Johnson to measure fluorescence because measuring fluorescence, luminescence, or absorption does not differentiate the claimed apparatus from the Johnson's apparatus satisfying the claimed structural limitations."

For the reasons set forth above under the 35 USC 102(b) argument, the combination of the '986 patent with the '266 patent can not render obvious claims 25-27, since the '986 reference does not show simultaneous imaging of all the pupils.

Respectfully submitted,



EUGENE E. RENZ, JR.

Attorney of Record
Registration No. 19,557

Telephone:
(610) 565-6090
Facsimile:
(610) 566-9790
P.O. Box 2056
205 North Monroe Street
Media, PA 19063-9056
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